

## **Abstract**

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The invention relates to an adhesive bond of a substrate material (1), whose surface and surface-near solid area contain polymer compounds with low active surface energy, and another material (4) and a method for the production of a corresponding adhesive bond. The invention more particularly relates to an adhesive metallized fluoropolymer, such as polytetrafluorethylene (PTFE), as a base material for printed circuit boards having a very high structural density (fine and very fine printed circuit boards) used in the GHz range and to a method for adhesive metallization of a corresponding fluoropolymer. According to the invention, the adhesive bond is formed by a nanostructured transition area (6), containing nanocomposites, between the substrate material (1) and the other material (4), inside which the substrate material (4) which is nanostructured changes into the other material (4). The nanocomposites are composed of substrate material (1) and the other material (4). The material parts of the nanocomposites change from the substrate material (1) in the direction of the other material (1), starting with predominantly substrate material which becomes predominantly the other material (4). According to the invention, the adhesive bond is produced by physically and/or chemically exciting a nano-indented surface of the substrate material (1) and by applying the other material (4) in the form of particles during the excited state until the surface of the other substrate material (1) is fully coated with the other material (4).